

**[0058]** What is claimed is:

1. A method comprising:

receiving a signal associated with light scattering from a first aerosol that is associated with a first airflow;

receiving a signal representing the first airflow; and

calculating a volume of the first aerosol, the calculation being based on the signal associated with light scattering from the first aerosol and the signal representing the airflow.

2. The method of claim 1, further comprising:

receiving a signal associated with light scattering from a second aerosol that is associated with a second airflow;

receiving a signal representing the second airflow;

calculating a volume of the second aerosol, the calculation being based on the signal associated with light scattering from the second aerosol and the signal representing the second airflow; and

outputting a signal associated with a comparison of the volume of the first aerosol and the volume of the second aerosol.

3. The method of claim 2, wherein the output signal includes information for metering a third aerosol.

4. The method of claim 1, wherein the first pressure is associated with inhalation, and the second airflow is associated with exhalation.

5. The method of claim 2, wherein the second aerosol includes a subset of the first aerosol.
6. The method of claim 1, wherein the scattering is due to diffraction.
7. A medium storing instructions to cause a processor to  
receive a signal associated with light scattering from a first aerosol that is  
associated with a first airflow;  
receive a signal representing the first airflow; and  
calculate a volume of the first aerosol, the calculation being based on the signal  
associated with light scattering from the first aerosol and the signal representing the first  
airflow.
8. The medium of claim 7, the medium storing further instructions to  
receive a signal associated with light scattering from a second aerosol that is  
associated with a second airflow;  
receive a signal representing the second airflow;  
calculate a volume of the second aerosol, the calculation being based on the signal  
associated with light scattering from the second aerosol and the signal representing the  
second airflow; and  
output a signal associated with a comparison of the volume of the first aerosol and  
the volume of the second aerosol.
9. The medium of claim 8, wherein the output signal includes information for  
metering a third aerosol.

10. The medium of claim 7, wherein the first pressure is associated with inhalation, and the second airflow is associated with exhalation.
11. The medium of claim 8, wherein the second aerosol includes a subset of the first aerosol.
12. The medium of claim 7, wherein the scattering is due to diffraction.
13. An apparatus comprising:  
a detector operable to detect light originating at a light source and scattered by an aerosol;  
a sensor operable to determine a pressure of an aerosol; and  
a processor coupled to the detector, the processor configured to  
receive a signal associated with light scattering from a first aerosol that is associated with a first airflow;  
receive a signal representing the first airflow; and  
calculate a volume of the first aerosol, the calculation being based on the signal associated with light scattering from the first aerosol and the signal representing the first airflow.
14. The apparatus of claim 13, wherein the processor is further configured to  
receive a signal associated with light scattering from a second aerosol that is associated with a second airflow;  
receive a signal representing the second airflow;  
calculate a volume of the second aerosol, the calculation being based on the signal associated with light scattering from the second aerosol and the signal representing the second airflow; and

output a signal associated with a comparison of the volume of the first aerosol and the volume of the second aerosol.

15. The apparatus of claim 14, further comprising dose-selection means coupled to the processor, and wherein the output signal can be received by the dose-selection means, and wherein the output signal includes information useful for metering a third aerosol.

16. The apparatus of claim 14, wherein the output signal includes information for metering a third aerosol.

17. The apparatus of claim 13, further comprising a light source.

18. The apparatus of claim 13, wherein the first airflow is associated with inhalation, and the second airflow is associated with exhalation.

19. A method comprising:

receiving a first signal associated with light scattering from a first aerosol that is associated with a first airflow;

receiving a second signal associated with light scattering from a second aerosol that is associated with a second airflow; and

outputting an output signal associated with a comparison between the first signal and the second signal.

20. The method of claim 19, further comprising receiving a signal representing at least one of the first airflow and the second airflow, and wherein the output signal is further associated with at least one of the first airflow and the second airflow.

21. The method of claim 20, wherein the output signal includes information for metering a third aerosol.

22. The method of claim 20, wherein the first airflow is associated with inhalation, and wherein the second airflow is associated with exhalation.
23. The method of claim 19, wherein the second aerosol includes a subset of the first aerosol.
24. The method of claim 19, wherein the scattering is due to diffraction.
25. The method of claim 19, wherein at least one of the first signal and the second signal includes information about particle size.
26. A medium storing instructions to cause a processor to
- receive a first signal associated with light scattering from a first aerosol that is associated with a first airflow;
- receive a second signal associated with light scattering from a second aerosol that is associated with a second airflow; and
- output an output signal associated with a comparison between the first signal and the second signal.
27. The medium of claim 26, the instructions further comprising receiving a signal representing at least one of the first airflow and the second airflow, and wherein the output signal is further associated with at least one of the first airflow and the second airflow.
28. The medium of claim 27, wherein the output signal includes information for metering a third aerosol.
29. The medium of claim 27, wherein the first airflow is associated with inhalation, and wherein the second airflow is associated with exhalation.

30. The medium of claim 26, wherein the second aerosol includes a subset of the first aerosol.
31. The medium of claim 26, wherein the scattering is due to diffraction.
32. The medium of claim 26, wherein at least one of the first signal and the second signal includes information about particle size.
33. An apparatus comprising:  
a detector operable to detect light originating at a light source and scattered by an aerosol; and  
a processor coupled to the detector, the processor configured to  
receive a first signal associated with light scattering from a first aerosol that is associated with a first airflow;  
receive a second signal associated with light scattering from a second aerosol that is associated with a second airflow; and  
output an output signal associated with a comparison between the first signal and the second signal.
34. The apparatus of claim 33, wherein the processor is further configured to receive a signal representing at least one of the first airflow and the second airflow, and wherein the output signal is further associated with at least one of the first airflow and the second airflow.
35. The apparatus of claim 34, further comprising dose-selection means coupled to the processor, and wherein the output signal is received by the dose-selection means, and wherein the output signal includes information for metering a third aerosol.

36. The apparatus of claim 35, further comprising the light source.
37. The apparatus of claim 33, wherein the second aerosol includes a subset of the first aerosol.
38. The apparatus of claim 33, wherein the scattering is due to diffraction.
39. The apparatus of claim 33, wherein the first airflow is associated with inhalation, and wherein the second airflow is associated with exhalation.
40. The apparatus of claim 33, wherein at least one of the first signal and the second signal includes information related to particle size.
41. A method comprising:
- receiving a first input signal associated with a scattering event with a first aerosol;
  - receiving a second input signal associated with a scattering event with a second aerosol;
  - receiving a third input signal associated with a flow rate of at least one of the first aerosol and the second aerosol; and
  - determining a net amount of aerosol transferred, the determination based on the first input signal and the second input signal and the third input signal.
42. The method of claim 41, further comprising outputting an output signal associated with the determination of the net amount of aerosol transferred, the output signal including information for metering a third aerosol.
43. The method of claim 42, further comprising receiving the output signal.
44. A medium storing instructions to cause a processor to
- receive a first signal associated with light scattering from a first fluid that is associated with a first airflow;

receive a second signal associated with light scattering from a second fluid that is associated with a second airflow;

receive a third signal associated with at least one of the first airflow and the second airflow; and

output an output signal associated with a difference between the first signal and the second signal.

45. The medium of claim 44, wherein the output signal includes information for metering a third fluid.